



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,386	09/29/2000	Goro Shibamoto	09792909-0430	1405

7590 12/12/2002

David R. Metzger  
SONNENSCHEIN NATH & ROSENTHAL  
P. O. Box #061080  
Wacker Drive Station, Sears Tower  
Chicago, IL 60606-1080

EXAMINER

RUTHKOSKY, MARK

ART UNIT

PAPER NUMBER

1745

10

DATE MAILED: 12/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/675,386	SHIBAMOTO, GORO	
	Examiner Mark Ruthkosky	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 30 September 2002.

2a) This action is **FINAL**.                  2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-5 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-5 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)  The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) <input type="checkbox"/> Other: _____

## **DETAILED ACTION**

### ***Specification***

The amendment to the title of the invention is noted. The new title more clearly identifies the invention.

### ***Claim Objections***

The objection to claims 1-5 because of specific informalities has been overcome by the applicant's amendment.

### ***Claim Rejections - 35 USC § 112***

The rejection of claims 1-5 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been overcome by the applicant's amendment.

### ***Claim Rejections - 35 USC § 102***

The rejection of claims 1-5 under 35 U.S.C. 102(b) as being anticipated by Yde-Anderson (WO 97/03475) has been overcome by the applicant's amendment.

The rejection of claims 1-3 and 5 under 35 U.S.C. 102(b) as being anticipated by Segawa et al. (EP 936,690 A2) has been overcome by the applicant's amendment.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yde-Anderson (WO 97/03475) in view of Kodama et al. (US 6,337,153.)

The instant claims are to a solid electrolyte cell comprising of a rolled electrolyte body consisting of a positive electrode having a strip electrode collector with both sides coated with a positive active material, and a negative electrode having a strip electrode collector with both sides coated with a negative active material, wherein the electrodes are layered with a solid electrolyte in between. The layers are rolled to form a rolled electrode body. The rolled electrodes have a current collector one-side exposed portion at their one end in the longitudinal direction positioned at the outermost circumference and the current collector one-side exposed portion covers the outer circumference of the rolled electrode body. The rolled electrode body is covered with a multi-layered cell casing.

Yde-Anderson (WO 97/03475) teaches a solid electrolyte electrochemical cell comprising of a rolled electrolyte body consisting of a positive electrode having a strip electrode collector with both sides coated with a positive active material, and a negative electrode having a strip electrode collector with both sides coated with a negative active material, wherein the electrodes are layered with a solid electrolyte in between (see claim 1 and 4). The rolled electrodes have a current collector one-side exposed portion at their one end in the longitudinal

Art Unit: 1745

direction positioned at the outermost circumference and the current collector one-side exposed portion covers the outer circumference of the rolled electrode body (see claims 2-3.)

With regard to claim 2, the solid electrolyte layer contains a polymer separator imbibed with a salt and a swelling solvent. For example, carbonates are used as the swelling solvent in the instant example 1. It is also used as a swelling solvent in the reference (see examples 1-2 and claim 4.) Imbibing the solvent into the polymer inherently forms a gel in both the application and the reference.

With regard to claims 3-5, the anode and cathodes are shown to have both sides of the collector free of active material at the same ends (see pages 20-21.) Both the interior and exterior circumferences of the wound assembly are covered with the exposed portion of the collector for more than one turn (see page 21, lines 9-23.) The current collector may be coated on only one side (see pg. 7, lines 20-25.) Various numbers of turns with and without active materials are described on page 7, lines 1-25.

Yde-Anderson (WO 97/03475) does not teach a solid electrolyte electrochemical cell comprising a rolled electrode body covered with a multi-layered cell casing. The use of multi-layered cell casings is well described in the art. For example, Kodama et al. (US 6,337,153) teaches a sealed non-aqueous electrolyte cell having a laminated casing. The casing includes a metal foil covered with a polymer material on each side of the foil (see claim 1, for example.) It would be obvious to one of ordinary skill in the art at the time the invention was made to use a multi-layered cell casing as described in Kodama et al. (US 6,337,153) in the solid electrolyte electrochemical cell of Yde-Anderson (WO 97/03475) as the casing will provide a sealed, protective container for housing the cell. Further, one of ordinary skill would recognize from

Art Unit: 1745

Kodama et al. (US 6,337,153) that such a casing would provide a thin, lightweight, flexible casing which inhibits the permeation of moisture and provides a protective layer against alkali and oxygen corrosion (see col. 1, lines 5-45.) These general features would be desirable in a casing for the solid electrolyte electrochemical cell of Yde-Anderson (WO 97/03475).

Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segawa et al. (EP 936,690 A2) in view of Kodama et al. (US 6,337,153.)

Segawa et al. (EP 936,690 A2) teaches a non-aqueous electrolyte battery comprising of a rolled electrolyte body consisting of a positive electrode having a strip electrode collector with both sides coated with a positive active material, and a negative electrode having a strip electrode collector with both sides coated with a negative active material, wherein the electrodes are layered with a solid electrolyte in between (see claim 1 and figure 2). The rolled electrodes have a current collector one-side exposed portion at their one end in the longitudinal direction positioned at the outermost circumference and the current collector one-side exposed portion covers the outer circumference of the rolled electrode body (see claims 2-3.)

With regard to claim 2, the solid electrolyte layer contains a polymer separator imbued with a salt and a swelling solvent. For example, carbonates are used as the swelling solvent in the instant example 1. It is also used as a swelling solvent in the reference (see example 1 and page 4, lines 7-12 and 40-50.) Imbibing the solvent into the polymer inherently forms a gel in both the application and the reference.

With regard to claims 3 and 5, the anode and cathodes are shown to have both sides of the collector free of active material at the same ends (see claim 1 and figures 2-3.) The exterior

circumference of the wound assembly is covered with the exposed portion of the collector for more than one turn (see page 4, lines 1-30.) Various numbers of turns with and without active materials are described. Although the reference does not teach a current collector with only one-side exposed, a collector having both sides exposed consists of one side exposed. In addition, the reference does discuss a current collector having an active material where only one side is exposed (see page, 4, lines 20-25.)

Segawa et al. (EP 936,690 A2) does not teach a solid electrolyte electrochemical cell comprising a rolled electrode body covered with a multi-layered cell casing. The use of multi-layered cell casings is well described in the art. For example, Kodama et al. (US 6,337,153) teaches a sealed non-aqueous electrolyte cell having a laminated casing. The casing includes a metal foil covered with a polymer material on each side of the foil (see claim 1, for example.) It would be obvious to one of ordinary skill in the art at the time the invention was made to use a multi-layered cell casing as described in Kodama et al. (US 6,337,153) in the solid electrolyte electrochemical cell of Segawa et al. (EP 936,690 A2) as the casing will provide a sealed, protective container for housing the cell. Further, one of ordinary skill would recognize from Kodama et al. (US 6,337,153) that such a casing would provide a thin, lightweight, flexible casing which inhibits the permeation of moisture and provides a protective layer against alkali and oxygen corrosion (see col. 1, lines 5-45.) These general features would be desirable in a casing for the solid electrolyte electrochemical cell of Segawa et al. (EP 936,690 A2.)

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Examiner Correspondence***

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1193. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 703-305-0587. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:00.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 703-308-0383.

Application/Control Number: 09/675,386  
Art Unit: 1745

Page 8

The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

*A*  
**Patrick Ryan**  
**Supervisory Patent Examiner**  
**Technology Center 1700**